

MICROWAVE OVENS

There are numerous microwave ovens in laboratories, lunchrooms, break areas, and glassware washing rooms at the NCI-Frederick. Microwave ovens are frequently used for melting agar as in the preparation of agarose gels. Whenever containers of liquids are heated in a microwave oven, the container must be vented. An explosion may occur when a bottle containing water and agar is being heated to melt the agar. Even at moderate cooking temperatures, considerable steam pressures are generated when aqueous solutions are heated in closed containers. For example, at 300°F the pressure generated is greater than 50 psi.

Ovens at the NCI-Frederick should be kept clean. The door seal must not become clogged with sludge. If the microwave door is loose or does not close properly, or if any other problems are encountered in operating the oven, FME should be notified so that the Instrument Shop can repair any deficiency. EHS has the ability to test the oven to validate that it does not have a radiant energy leakage in excess of current industry standards.

Many laboratory workers have microwave ovens in their homes and are not familiar with the procedures for operating them safely. Those who are not experienced in operating these ovens should read the brochure that accompanies each oven.

The microwave oven is an efficient device for heating a variety of laboratory materials. However, EHS wishes to emphasize that containers of liquids heated in the microwave oven must be vented.

Please call EHS at x1451 if you have any questions or need additional information.